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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/654,376

09/01/2000

Onur Tackin

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6658

23363

7590

10/18/2005

CHRISTIE, PARKER & HALE, LLP

PO BOX 7068

PASADENA, CA 91109-7068

EXAMINER

FERRIS, DERRICK W

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/654,376

Applicant(s)

TACKIN, ONUR

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,11-17,19-43,46-51,53-59,61-69,71-77 and 79-88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4-9,11-17,19-26,43,46-51,53-59,61-69,71-77,79-84,87 and 88 is/are allowed.
- 6) ☒ Claim(s) 27,29-35,37-42,85 and 86 is/are rejected.
- 7) ☒ Claim(s) 28 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/2005 has been entered.
2. Examiner **withdraws** the obviousness rejection to *Hardwick* in view of *Barghouti* for claims 1, 4-8, 9-16, 17, 19-26, 28, 36, 43, 46-50, 51, 53-58, 59, 61-68, 69, 87, 71-76, 77, 88, and 79-84 based on applicant's claim amendment.
3. Examiner does **not withdraw** the obviousness rejection and corresponding rejections to *Hardwick* in view of *Barghouti* for claims 27, 85, 29-34, 35, 86, 37-42. In particular, for independent claims 27, 35, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As such, please the rejection using the references in combination.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 27, 29, 30, 35, 37, 39, 85 and 86** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,216,747 A to *Hardwick et al.* ("*Hardwick*") in view of U.S. Patent No. 6,535,521 B1 to *Barghouti et al.* ("*Barghouti*").

As to **claim 27**, *Hardwick* may be silent or deficient to using a resource manager to invoke the voice detector during the voice band data exchange, the resource manger further terminating the voiceband data exchange and invoking the voice enhancer when the voice detector detects voice in the signal. *Barghouti* teaches using a resource manager. In particular, *Barghouti* teaches using a resource manage to process speech frames using a backend module and not use a back end module when processing non-speech frames, see e.g., column 3, lines 45-63. Examiner purposes to modify *Hardwick* by clarifying that a resource manager is used to invoke the voice detector during the voice band data exchange, the resource manger further terminating the voiceband data exchange and invoking the voice enhancer when the voice detector detects voice in the signal. Examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to teach the above-limitation. In particular, one skilled in the art would be motivated to offload the backend modules during periods of non-speech to help reduce the power consumption. As such, *Barghouti* discloses the above-motivation e.g., in the abstract. Examiner notes a reasonable expectation of success since both reference disclose detecting voice.

As to **claim 29**, see *Hardwick* e.g., column 7, lines 30-37 where autocorrelation is used in estimating the pitch period. In particular, see e.g., figure 9 where a threshold is a function of not only the pitch P and the frequencies in the band, but also the energy of the

signal used in detecting voice, see e.g., column 10, lines 27-67. Specifically $r(n)$ (shown as part of equation 1) is an autocorrelation function used to determine the pitch tracking which predicts the pitch period for the next frame (i.e., estimates the pitch period).

As to **claim 30**, see *Hardwick* at e.g., column 10, lines 27-67 where power is also used in determining if voice should be selected.

As to **claim 35**, see similar rejection to claim 27.

As to **claim 37**, see similar rejection to claim 30.

As to **claim 39**, see similar rejection to claim 29.

As to **claim 85**, see similar rejection to claim 30.

As to **claim 86**, see similar rejection to claim 30.

6. **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,216,747 A to *Hardwick et al.* ("*Hardwick*") in view of U.S. Patent No. 6,535,521 B1 to *Bargouti et al.* ("*Barghouti*") and in further view of U.S. Patent No. 4,282,406 to *Yato et al.* ("*Yato*") and U.S. Patent No. 4,331,837 to *Soumagne*.

As to **claims 31**, *Hardwick* discloses using a power threshold but is silent or deficient to the range used such as the range -45 to -55 dBm specified in the limitation. *Soumagne* teaches the above limitation when selecting values, see e.g., figure 8. In particular, *Soumagne* selects a range of detecting speech from -42 to -60 dBm thus meeting the limitation. The examiner proposes to modify *Hardwick* to include the above range for detecting voice as taught by *Soumagne*. Examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to use the above range in detecting voice. The proposed motivation would be that the power under -60 dBm is

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usually attributed to silence and power above -42 dBm is usually attributed to noise or invalid sounds. In particular, *Soumagne* teaches the above motivation e.g., at column 11.

7. **Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,216,747 A to *Hardwick et al.* ("*Hardwick*") in view of U.S. Patent No. 6,535,521 B1 to *Bargouti et al.* ("*Barghouti*") and U.S. Patent No. 4,331,837 to *Soumagne*.

As to **claim 38**, see similar rejection to claim 31.

8. **Claims 32-34, and 40-42** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,216,747 A to *Hardwick et al.* ("*Hardwick*") in view of U.S. Patent No. 6,535,521 B1 to *Bargouti et al.* ("*Barghouti*") in further view of U.S. Patent No. 4,282,406 to *Yato et al.* ("*Yato*").

As to **claim 32, 33, and 34**, *Hardwick* is silent or deficient to specific ranges for a characteristic. In particular, *Hardwick* is silent or deficient to a pitch period in the range of 60-400 Hz, one period shift being in the range of 0.25-0.45 of the amplitude of the autocorrelation signal with no shift (i.e., $r[0]$), and a peak amplitude of the shifted autocorrelated signal being less than 0.75 to 0.90 of the peak amplitude. *Yato* teaches the above limitations. For example, a pitch period is taught at column 1, lines 10-22; one period being shifted in the range of 0.25-0.45 at column 4, lines 30-54; and a peak amplitude signal being less than 0.75 to 0.90 at column 5, lines 8-37. The examiner proposes to modify *Hardwick* to include the above-mentioned ranges. Thus the examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include a pitch period in the range of 60-400 Hz, a one period shift being in the range of 0.25-0.45 and the shifted autocorrelation signal being less than 0.75-0.90 of

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the peak amplitude. In particular, one skilled in the art would have been motivated to include a pitch period between 60-400 Hz since tones are typically found in this period, a one period shift being in the range of 0.25-0.45 and a peak amplitude signal being less than 0.75-0.90 of the peak amplitude to determine if the incoming signal is voice. *Yato* provides the above motivation show e.g., in figures 5a and 5b.

As to **claim 40**, see similar rejection to claim 32.

As to **claim 41**, see similar rejection to claim 33.

As to **claim 42**, see similar rejection to claim 34.

Allowable Subject Matter

9. **Claims 1, 4-8, 9, 11-16, 17, 19-26, 43, 46-50, 51, 53-58, 59, 61-68, 69, 87, 71-76, 77, 88, and 79-84** are allowed.

10. **Claims 28 and 36** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

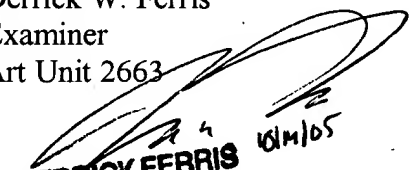
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DWF

Derrick W. Ferris
Examiner
Art Unit 2663


DERRICK FERRIS
PATENT EXAMINER